CLAIMS

Claims 1-31 (canceled)

Claim 32 (currently amended): A method of forming a vibration damping system for a door assembly of an automotive vehicle, the door assembly including an exterior panel structure, the method comprising:

providing a door reinforcement wherein the door reinforcement is a beam having an exposed external surface portion ~~that bridges a door frame at a first end and a second end of the frame, and the door reinforcement has an exposed external surface portion~~;

applying, with an apparatus and according to an automated process, an expandable vibration damping material in bonding contact over at least a portion of the exposed surface portion of the reinforcement prior to expansion; and

mounting the door reinforcement to the door assembly such that the door reinforcement bridges a door frame

~~, wherein:~~

~~i) the expandable vibration damping material is substantially dry and tack free to the touch after extruding~~.

Claim 33 (currently amended): A method as in claim 32, further comprising:

~~mounting the reinforcement to the door assembly with the expandable material disposed thereon; and~~

expanding, by exposure to heat, the expandable vibration damping material to contact and adhere to the exterior panel structure including the door inner panel, door outer panel or both.

Claim 34 (previously presented): A method as in claim 33 wherein the expanding of the damping material occurs during a painting operation performed upon the vehicle.

Claim 35 (previously presented): A method as in claim 32 wherein the step of applying the damping material is performed robotically.

Claim 36 (previously presented): A method as in claim 32 wherein the step of applying the damping material includes extruding the damping material with a mini-applicator.

Claim 37 (previously presented): A method as in claim 32 wherein the damping material is in a viscoelastic state during applying thereby allowing the material to flow onto the reinforcement.

Claim 38 (currently amended): A method as in claim 37 further comprising:

allowing the material to return to its generally dry substantially non-tacky state after extrusion onto the reinforcement thereby bonding the damping material to the reinforcement.

Claim 39 (previously presented): A method as in claim 32 wherein the damping material is applied as a single bead.

Claim 40 (previously presented): A method as in claim 32 wherein the damping material is applied as a plurality of nodes.

Claim 41 (currently amended): A method as in claim 32 wherein the reinforcement member is a door intrusion beam that is metal and tubular ~~metal, tubular or both~~.

Claim 42 (currently amended): A method as in claim 32 ~~38~~ wherein the reinforcement is an intrusion beam and the expandable damping material is extruded onto the intrusion beam by a supplier and then the beam is shipped to a vehicle manufacturer for assembly to the vehicle by the vehicle manufacturer.

Claim 43 (previously presented): A method as in claim 32 further comprising:

expanding the expandable damping material wherein the expandable damping material has an original volume prior to expansion and the expandable damping material expands to an expanded volume that is greater than 1000 % of the original volume.

Claim 44 (previously presented): A method as in claim 40 wherein the nodes of the plurality of nodes each contact an adjacent node of the plurality of nodes and the exterior panel structure after expansion and wherein the nodes of the plurality of nodes are in a random pattern after expansion thereby forming miniaturized chamber areas that absorb various vibrations and sound frequencies.

Claim 45 (currently amended): A method of forming a vibration damping system for a door assembly of an automotive vehicle, the door assembly including an exterior panel structure, the method comprising:

providing an intrusion beam having a first end and a second end, the intrusion beam further having exposed surface portions between said first end and said second end;

extruding an expandable vibration damping material onto the exposed surface portions of the intrusion beam while the damping material is in a viscoelastic state such that the damping material flows onto the surface portions;

allowing the damping material to bond to the surface portions of the intrusion beam, the material becoming substantially dry and tack free upon bonding to the intrusion beam;

transporting the intrusion beam with the expandable vibration damping material thereon;

mounting the intrusion beam to the door assembly with the expandable material disposed thereon; and

expanding, by exposure to heat, the expandable vibration damping material to contact and adhere to the exterior panel structure ~~wherein the expanding of the damping material occurs during a painting operation performed upon the vehicle and~~ wherein the damping material expands to form a foam.

Claim 46 (previously presented): A method as in claim 45 wherein the step of extruding the damping material is performed robotically.

Claim 47 (previously presented): A method as in claim 45 wherein the step of extruding the damping material is accomplished with mini-applicator.

Claim 48 (previously presented): A method as in claim 45 wherein the damping material is extruded as a single bead.

Claim 49 (previously presented): A method as in claim 45 wherein the damping material is extruded as a plurality of nodes.

Claim 50 (previously presented): A method as in claim 45 wherein the reinforcement member is a door intrusion beam that is metal, tubular or both.

Claim 51 (previously presented): A method as in claim 45 wherein the expandable damping material is extruded onto the intrusion beam by a supplier and then the beam is shipped to a vehicle manufacturer for assembly to the vehicle by the vehicle manufacturer.

Claim 52 (currently amended): A method of forming a vibration damping system for a door assembly of an automotive vehicle, the door assembly including an exterior panel structure, the method comprising:

providing an intrusion beam having a first end and a second end, the intrusion beam further having exposed surface portions between said first end and said second end;

extruding an expandable vibration damping material onto the exposed surface portions of the intrusion beam while the damping material is in a viscoelastic state such that the damping material flows onto the surface portions, wherein the damping material is an ethylene based polymer material;

allowing the damping material to bond to the surface portions of the intrusion beam, the material becoming substantially dry and tack free upon bonding to the intrusion beam;

transporting the intrusion beam with the expandable vibration damping material thereon;

mounting the intrusion beam to the door assembly with the expandable material disposed thereon wherein the beam bridges a door frame of the door assembly at a first end and a second end of the frame; and

expanding, by exposure to heat, the expandable vibration damping material to contact and adhere to the exterior panel structure thereby serving to reduce the noise and vibration emanating from the door assembly wherein the expanding of the damping material occurs during a e-coat or paint processing ~~painting operation~~ performed upon the vehicle and wherein the damping material expands to form a foam;

wherein the expandable damping material is extruded onto the intrusion beam by a supplier and then transporting of the beam includes shipping the beam to a vehicle manufacturer for assembly to the vehicle by the vehicle manufacturer; and

wherein the damping material is extruded as a single bead along a length of the beam; and

wherein the step of extruding the damping material is performed robotically.

Claim 53 (new): A method as in claim 52 wherein the vibration damping material includes ethylene vinyl acetate.

Claim 54 (new): A method as in claim 53 wherein the vibration damping material is L-7102.

Claim 55 (new): A method as in claim 45 wherein the vibration damping material includes ethylene vinyl acetate or EPDM.